

**Claims:**

1. A low-energy-diet comprising as ingredients sources of

5 protein, carbohydrate, fat, and optionally minerals and pH-regulating agents, wherein one or more of the ingredient(s) has effect on at least two of the following mechanisms

the basal metabolic rate, and/or

10 the protein metabolism, and /or  
the energy expenditure,

when the low-energy-diet is administered as the main or sole nutrition.

15 2. The low-energy-diet according to claim 1, wherein the diet has an energy content in the range of from 600 kcal/d to 1200 kcal/d.

3. The low-energy-diet according to claim 2, wherein the diet has an energy content of approximately 800 kcal/d.

20 4. The low-energy-diet according to any of the preceding claims, wherein the source of protein is selected from casein, pork protein, and/or soy protein

25 5. The low-energy-diet according to claim 4, wherein at least a portion of the source of protein is soy protein.

6. The low-energy-diet according to any of the preceding claims, wherein the diet comprises the protein source in an amount of from 50 g protein to 80 g protein.

30 7. The low-energy-diet according to claim 6, wherein the diet comprises the protein source in an amount of from 60 g protein to 75 g protein.

35 8. The low-energy-diet according to any of the preceding claims, wherein the diet comprises the carbohydrate source in an amount of from 70 g carbohydrate to 120 g carbohydrate.

9. The low-energy-diet according to claim 8, wherein the diet comprises the carbohydrate source in an amount of from 80 g carbohydrate to 110 g carbohydrate.

5 10. The low-energy-diet according to any of the preceding claims, wherein at least a part of the carbohydrate source is selected from dihydroxy acetone phosphate and/or pyruvate.

10 11. The low-energy-diet according to claim 10, wherein the diet comprises dihydroxy acetone phosphate and/or pyruvate in an amount sufficient to increase the energy expenditure.

15 12. The low-energy-diet according to claim 10 or 11, wherein the diet comprises dihydroxy acetone phosphate and/or pyruvate in an amount sufficient to increase satiety.

13. The low-energy-diet according to claim 10, 11 or 12, wherein the diet comprises dihydroxy acetone phosphate in an amount of from 5 g to 15 g.

20 14. The low-energy-diet according to claim 10, 11, 12 or 13, wherein the diet comprises pyruvate in an amount of from 5 g to 20 g.

15. The low-energy-diet according to claim 14, wherein the pyruvate is in the form of sodium pyruvate and/or calcium pyruvate.

25 16. The low-energy-diet according to any of the preceding claims, wherein the diet comprises the fat source in an amount of from 5 g to 20 g.

17. The low-energy-diet according to claim 16, wherein at least 3 g of the fat source 30 is a fat source capable of increasing the energy expenditure.

18. The low-energy-diet according to claim 17, wherein at least 3 g of the fat source is medium chain triglycerides.

19. The low-energy-diet according to claim 18, wherein the medium chain triglycerides are selected from C6 triglycerides, C8 triglycerides and C10 triglycerides.

20. The low-energy-diet according to any of the preceding claims, wherein at least

5 3 g of the fat source is fish oil.

21. The low-energy-diet according to any of the preceding claims, wherein the diet comprises pH-regulating agent in an amount sufficient to reduce protein degradation.

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22. The low-energy-diet according to claim 21, wherein the diet comprises as the pH-regulating agent bicarbonate in an amount sufficient to reduce protein degradation.

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23. The low-energy-diet according to claim 21, wherein the diet comprises bicarbonate in an amount of from 50 mmol/d to 70mmol/d.

24. The low-energy-diet according to any of the preceding claims, wherein diet comprises iron in an amount sufficient to modulate the basal metabolic rate.

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25. The low-energy-diet according to claim 24, wherein the diet comprises iron in an amount sufficient to prevent reduction in the basal metabolic rate.

26. The low-energy-diet according to claim 24 or 25, wherein the diet comprises iron  
25 in an amount of from 20 mg/d to 30 mg/d.

27. The low-energy-diet according to any of the preceding claims, wherein the diet further comprises dietary fibres.

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28. The low-energy-diet according to claim 27, wherein the dietary fibres are selected from barley fibres, sugar beat fibres and oat fibres.

29. The low-energy-diet according to any of the preceding claims, wherein the diet further comprises magnesium.

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30. The low-energy-diet according to claim 29, wherein the magnesium is added as MgCl.
31. The low-energy-diet according to any of the preceding claims, wherein the diet  
5 further comprises ursodeoxy cholic acid.
32. The low-energy-diet according to any of the preceding claims, wherein the diet is  
in the form of powder.
- 10 33. The low-energy-diet according to claim 32, wherein the powder is capable of  
being suspended or solved in liquid, such as liquid selected from water and milk.
34. The low-energy-diet according to any of the preceding claims 1-31, wherein the  
diet is in the form of ready-to-drink product.
- 15 35. The low-energy-diet according to any of the preceding claims 1-31, wherein the  
diet is in the form of bar product.
36. The low-energy-diet according to any of the preceding claims, wherein the diet is  
20 suited for the main or sole nutrition daily, said diet being divided into two or more  
portions per day.
37. The low-energy-diet according to claim 36, wherein the diet is packed in a pack-  
age intended for being able to cover the total nourishment requirement for a de-  
25 fined period of time.
38. A method for treating overweight comprising administering to an individual in  
need thereof an effective amount of a low-energy-diet as defined in any of the  
claims 1-36 as the main or sole nutrition daily.
- 30 39. Use of ingredients being sources of  
  
protein, carbohydrate, fat, and optionally minerals and pH-regulating agents,  
wherein one or more of the ingredient(s) has effect on at least two of the follow-  
35 ing mechanisms

the basal metabolic rate, and/or  
the protein metabolism, and /or  
the energy expenditure,

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for the production of a low-energy-diet for administration as the main or sole nutrition.

40. The use according to claim 39, wherein the ingredients are as defined in any of

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claims 1-31.

41. The use according to claim 39 or 40, wherein the diet is in the form of a powder  
or a ready-to-drink product or a bar product.